

PROPOSED USE OF THE PLENARY POWERS TO DETERMINE
THE INTERPRETATION OF THE NOMINAL SPECIES
"VESPERTILIO MURINUS" LINNAEUS, 1758, TYPE SPECIES OF
THE GENUS "VESPERTILIO" LINNAEUS, 1758 (CLASS
MAMMALIA) (PROPOSED CLARIFICATION OF A RULING GIVEN
IN "OPINION" 91)

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

(Commission Reference : Z.N.(S) 947)

The object of the present application is to set out certain difficulties which have arisen in connection with the generic name *Vespertilio* Linnaeus, 1758 (Class Mammalia), a name which was placed on the *Official List of Generic Names in Zoology* by the Ruling given in *Opinion 91* (1926, *Smithson. misc. Coll.* 73 (No. 4) : 1—2), and to seek to overcome those difficulties by placing before the International Commission on Zoological Nomenclature proposals based upon the advice of specialists who have been kind enough to assist in the preliminary consideration of the problems raised in the present case.

2. The present problem was first brought to the attention of the Office of the International Commission when in 1955 steps were being taken in compliance with a General Directive issued to the International Commission by the Thirteenth International Congress of Zoology, Paris, 1948, to place on the *Official List of Specific Names in Zoology* (a) the specific name of the type species of every genus, the name of which had up till that time been placed on the *Official List of Generic Names in Zoology* where that name was the oldest available name for the species in question, and (b) in other cases whatever specific name was currently regarded as the oldest name available for that species. At this stage Professor Tadeusz Jaczewski drew attention to a paper in which Dr. Olof Ryberg, a well-known specialist in the bats, had expressed the view that the specific name *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, the specific name of the type species of the genus *Vespertilio* Linnaeus, 1758, was a *nomen dubium*, the nominal species *Vespertilio murinus* Linnaeus being indeterminable. In these circumstances it was clearly not possible at that time to proceed with the proposal that the foregoing specific name should be placed on the *Official List of Specific Names in Zoology*. Accordingly, on 19th April 1955 in my capacity as Secretary to

the Commission I executed a Minute withdrawing the proposal which had been submitted in this matter in order to permit of the study of the issues involved.*

3. As a first step investigations were undertaken by the Office of the Commission for the purpose of determining the factual background of the present problem. This investigation showed that, while some specialists identify the nominal species *Vespertilio murinus* Linnaeus with the later established nominal species *Vespertilio discolor* (Natterer MS) Kuhl, 1817,† and apply the name *murinus* Linnaeus to that species, other specialists reject the name *Vespertilio murinus* Linnaeus as a *nomen dubium* and use the name *discolor* Kuhl (which it is agreed represents a species which can be identified with certainty).

4. The following information collected in the Office of the Commission is relevant to the consideration of the foregoing question :—

- (a) The nominal species *Vespertilio murinus*, with the interpretation of which the present paper is concerned, was established by Linnaeus in 1758 (*Syst. Nat.* (ed. 10) 1 : 32).
- (b) In [1775] Schreber (*Die Säughthiere* 1 : 165, pl. 11) established another nominal species to which he also gave the name *Vespertilio murinus*. This name is invalid as it is a junior primary homonym of *Vespertilio murinus* Linnaeus, 1758. The identity of the species so named by Schreber is not in doubt and that species is the type species of the genus *Myotis* Kaup, 1829.‡
- (c) In 1817 (" *Die dtsch. Fledermäuse* " : 43) Kuhl published with an " indication " the name *Vespertilio discolor* previously proposed by

* The text of the Minute here referred to has been reproduced in paragraph 4 of *Direction 22* (1955, *Ops. Decl. int. Comm. zool. Nomencl.* 1(C) : 179—200), the *Direction* embodying the decisions taken by the Commission when complying so far as concerns the names of mammals, with the General Directive referred to above.

† This name is commonly attributed either to " Natterer " or to " Natterer in Kuhl " and treated as having been published in 1819 in the *Annalen der Wetterauischen Gesellschaft für die gesammte Naturkunde*. The consultations with specialists carried out in the course of the preparation of the present paper have, however, shown (a) that Kuhl was alone responsible for the publication of this name, (b) that it was published separately in 1817 in Kuhl's " *Die deutschen Fledermäuse* " prior to the publication of that paper in the *Annalen* referred to above in 1818—1819. For full particulars see Appendix 1 to the present paper. [In the historical account given in the above paragraph the name *Vespertilio discolor* is cited as having been published by Natterer when it was so attributed by the authors under discussion.]

‡ For a note on certain difficulties arising in connection with this name see Appendix 2.

Natterer in manuscript.* As shown in (d) and (e) below, the species so named was identified by later authors with *Vespertilio murinus* Linnaeus, 1758. In the original description of *discolor* it is stated that this species only occurs in the southern part of "our area" [i.e., Germany]. Kuhl added that he had not found this species either in central or northern Germany or in Holland.

(d) In 1847 (*Skand. Faun., Daggdjuren* : 17—20) Nilsson discussed the interpretation of *Vespertilio murinus* Linnaeus. He identified this with *Vespertilio discolor* Natterer† and reinstated the name *murinus* Linnaeus for the species in question. At the same time he rightly rejected the invalid name *Vespertilio murinus* Schreber (see (b) above) for the type species of *Myotis* Kaup, using for the latter species the name *Vespertilio myotis* Bechstein, 1801.‡

(e) In 1897 (*Ann. Mag. nat. Hist.* (6) 20 : 379—383) Miller (G.S.) discussed the interpretation of the nominal species *Vespertilio murinus* Linnaeus. After drawing attention to the opposite view taken by Blasius (1857) and Lilljeborg (1874), Miller concluded that, despite the inconvenience involved there was no valid reason for rejecting the action of Nilsson (1847) (see (d) above) in identifying the foregoing species with *Vespertilio discolor* Natterer. An extract from Miller's paper is attached to the present note as Section A of Appendix 3. In 1912 (*Cat. Mamm. w. Europe Coll. Brit. Mus.* : 238) Miller made the same identification without, however, making any further comment on it.

(f) In 1926 the International Commission, when placing the name *Vespertilio* Linnaeus on the *Official List*, accepted *Vespertilio murinus* Linnaeus without comment as the type species of the genus so named. The proposals on which that *Opinion* was based had been submitted by Dr. Karl Apstein of Berlin and it was stated in the *Opinion* that those proposals had been studied by Miller who had reported that the names included in that application were valid and therefore that the proposals in question could be properly accepted. It is clear that the question of the interpretation of the nominal species *Vespertilio murinus* Linnaeus was not expressly placed before the Commission on that occasion and that it cannot be held that by the action taken in the foregoing *Opinion* the Commission expressed any view on this subject.

* See the Footnote to paragraph 3 above and also the full discussion given in Appendix 1.

† See Footnote to paragraph 3 above.

‡ See Appendix 2.

(g) In 1947 Olof Ryberg (*Bats and Bat Parasites* : 79—80) strongly attacked the identification of *Vespertilio murinus* Linnaeus with *Vespertilio discolor* Natterer,* stating that Nilsson, by whom this identification was first made (see (d) above), was fully aware that the Linnean species could not be safely identified in this way. He concluded that the name *murinus* Linnaeus must be regarded as a *nomen dubium*. He added that "it would be a significant gain and a release from a heavy burden for the chiropterologist if this harmful name which cannot be referred to a definite species were avoided in the future". An extract from Ryberg's paper is attached to the present note as Section B of Appendix 3.

(h) In 1951 (*Checklist pal. ind. Mamm.* : 152) Ellerman & Morrison-Scott accepted the name *murinus* Linnaeus for the Parti-coloured Bat, citing *discolor* Natterer* (attributed to Kuhl) as a synonym.

5. In order to obtain the necessary taxonomic information on which to base a proposal for the consideration of the International Commission, a questionnaire asking for advice on the action which it was desirable should be taken by the Commission in this case was prepared for submission to a number of specialists who, it was thought, would be interested in the issues involved and would be in a position to furnish advice on those issues. The specialists whom it was decided so to consult were either known to be specialists in the group concerned or, by reason of working at National Natural History Museums, were in a position to obtain and furnish to the Office of the Commission the views of specialists in their respective museums or of other representative specialists in their own countries. The questions on which the advice of specialists were so sought, which appeared as paragraph 8 of the questionnaire, were the following :—

(1) What during (say) the last fifty years has been the majority usage in the literature ? Has the name *murinus* been most commonly used or has the name *discolor* been most commonly used ?

(2) If the name *murinus* has been most commonly used, would you be in favour of the Commission putting a stop to further argument and doubt on the question of interpretation by using its Plenary Powers to direct that the nominal species *Vespertilio murinus* Linnaeus, 1758, be interpreted in the manner adopted by Nilsson (1847) and therefore identified with *Vespertilio discolor* Natterer, 1818 (or 1819) ?*

* See Footnote to paragraph 3 above.

(3) If the name *discolor* has been most commonly used, would you be in favour of the Commission using its Plenary Powers (i) to suppress the name *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, for the purposes of the Law of Priority but not for those of the Law of Homonymy, thereby validating the name *discolor* Natterer, 1818,* as published in the combination *Vespertilio discolor*, and (ii) to designate *Vespertilio discolor* Natterer* to be the type species of the genus *Vespertilio* Linnaeus, 1758?

Note (A): If the name *murinus* Linnaeus were suppressed in the manner indicated above, the later name *murinus* Schreber, [1775], for the type species of *Myotis* Kaup, 1829,† would remain invalid under the Law of Homonymy.

Note (B): If it were to be decided to suppress *murinus* Linnaeus and to validate *discolor*, it would be essential that *Vespertilio discolor* Natterer should be made the type species of *Vespertilio* Linnaeus, for it would be impossible to leave that genus without a type species.

6. As the question of issue was primarily one of interest to workers on the Palaearctic Fauna, the majority of the specialists consulted were workers in European Institutions. The following is the list of specialists consulted. To these would have been added Dr. C. C. Sanborn (*Chicago Natural History Museum*), the well-known specialist in the Chiroptera, if it had not been understood that the state of his health prevented him from undertaking investigations of the present kind. For assistance in drawing up the list of specialists to be consulted I am particularly indebted to Professor Tadeusz Jaczewski and Dr. W. Serafinski (*Warsaw*).

**Specialists to whom the questionnaire prepared in the present case
was issued**

L. Bels (Utrecht, The Netherlands)

A. C. V. van Bemmel (Alkmaar, The Netherlands)

H. von Boetticher (Coburg, Germany)

J. Dorst (Muséum National d'Histoire Naturelle, Paris)

E. Eisentraut (Stuttgart, Germany)

A. H. de Faveaux (Abbaye de Maredsous, Belgium)

S. Frechkop (Bruxelles, Belgium)

* See Footnote to paragraph 3 above.

† See Appendix 2.

T. Haltenorth (*München, Germany*)
R. W. Hayman (*British Museum (Natural History), London*)
A. M. Husson (*Leiden, The Netherlands*)
W. P. Issel (*München, Germany*)
Remington Kellogg (*Washington, D.C., U.S.A.*)
I. O. Kaisila (*Helsinki, Finland*)
A. P. Kuzjekin (*Moscow, U.S.S.R.*)
H. Mislin (*Basel, Switzerland*)
Erna Mohr (*Hamburg, Germany*)
T. C. S. Morrison-Scott (*British Museum (Natural History), London*)
O. Ryberg (*Alnarp Institut, Sweden*)
W. Serafinski (*Warsaw, Poland*)
G. G. Simpson (*The American Museum of Natural History, New York*)

7. As the result of the consultations described above, the views of ten specialists were obtained. Of these, eight (8) favoured the retention of the specific name *murinus* Linnaeus, 1758, as the name for the type species of *Vespertilio* Linnaeus, 1758, subject to the interpretation of that species under the Plenary Powers in the manner adopted by Nilsson (1847), while two (2) only favoured the suppression under the Plenary Powers of the specific name *murinus* Linnaeus and the designation under the same Powers of *Vespertilio discolor* (Natterer MS) Kuhl, 1817, to be the type species of the genus *Vespertilio* Linnaeus. Extracts from the communications so received are given in Appendix 4. In that Appendix comments received from specialists who support the retention and definitive interpretation of the nominal species *Vespertilio murinus* Linnaeus, 1758, are given in Section A, while those received from specialists who support the suppression under the Plenary Powers of the specific name *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, are given in Section B. The International Commission is greatly indebted to these specialists for the help given in assembling the data required for the consideration of the present case.

8. In view of the clear preponderance of the views of specialists in favour of the retention of the specific name *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, subject to the interpretation under the Plenary Powers of the nominal species so named in the manner proposed, I recommend that that course be adopted by the International Commission. As will be appreciated, a decision in the present case is a matter of considerable urgency, since the present is one of the relatively small number of cases

connected with the clarification or rectification of entries on the *Official List of Generic Names in Zoology* made in the period up to the end of 1936 on which the taking of decisions is an indispensable preliminary to the forthcoming publication of the *Official List* in book form.

9. Under the General Directive given to the International Commission by the Thirteenth International Congress of Zoology, to which reference has been made in paragraph 2 of the present paper, it will be necessary to place on the *Official List of Specific Names in Zoology* the specific name *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, as proposed to be defined under the Plenary Powers in paragraph 8 above if the recommendation there submitted is approved by the International Commission.

10. Under a further General Directive issued by the foregoing Congress directing that decisions by the Commission on applications relating to individual names are to be comprehensive in scope and to deal with all names which arise in connection with the cases in question, it will be necessary as part of the general settlement of the present case for the Commission : (1) to place on the *Official Index of Rejected and Invalid Specific Names in Zoology* (a) the specific name *discolor* Kuhl, 1817, as published in the combination *Vespertilio discolor* (which under the proposals now submitted would become a junior objective synonym of *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*) (paragraph 4(c) above) and (b) the specific name *murinus* Schreber, [1775], as published in the combination *Vespertilio murinus*, a junior homonym of the name published in the same combination by Linnaeus in 1758 (paragraph 4(b) above); (2) to place on the *Official List of Generic Names in Zoology* the generic name *Myotis* Kaup, 1829 (paragraph 4(b) above) and for the reasons given in Appendix 2 to direct that this name be treated as being of the masculine gender; (3) to place on the *Official List of Specific Names in Zoology* the specific name *myotis* Borkhausen, 1797, as published in the combination *Vespertilio myotis* the oldest available specific name for the type species of *Myotis* Kaup, 1829.*

11. Finally, under a General Directive issued by the Fourteenth International Congress of Zoology, Copenhagen, 1953, it is necessary to consider the family-group-name problems involved in the present case. Here it is necessary to note that the nominal genus *Vespertilio* Linnaeus, 1758, is the type genus of the currently accepted family VESPERTILIONIDAE. This nominal family-group taxon was first established in the incorrect form VESPERTILIA by Rafinesque in 1815 (*Analyse Nature* : 54); it was first published in the correct form VESPERTILIONIDAE by Gray (J.E.) in 1821 (*London med. Repository* 15 : 299).

* See Appendix 2.

The generic name *Myotis* Kaup, 1829, has not been taken as the base for a family-group name, the genus so named being currently placed in the family VESPERTILIONIDAE.

12. In the light of the considerations set out in the present Report I recommend the International Commission on Zoological Nomenclature :—

(1) to use its Plenary Powers to direct that the nominal species *Vespertilio murinus* Linnaeus, 1758, be interpreted in the manner adopted by Nilsson (1847) and therefore that the type specimen of the nominal species *Vespertilio discolor* (Natterer MS) Kuhl, 1817, is to be treated as the type specimen also of *Vespertilio murinus* Linnaeus, 1758 ;

(2) to substitute the following revised entry on the *Official List of Generic Names in Zoology* in regard to the generic name *Vespertilio* Linnaeus, 1758, for that made in respect of the foregoing name by the Ruling given in *Opinion* 91 :—

Vespertilio Linnaeus, 1758 (gender : masculine) (type species, by Linnean tautonymy: *Vespertilio murinus* Linnaeus, 1758, interpreted as proposed in (1) above under the Plenary Powers)

(3) to direct that the generic name *Myotis* Kaup, 1829, be treated as being of the masculine gender ;

(4) to place the under-mentioned generic name on the *Official List of Generic Names in Zoology* :—

Myotis Kaup, 1829 (gender, as determined under (3) above : masculine) (type species, by monotypy: *Vespertilio murinus* Schreber, [1775]*)

(5) to place the under-mentioned specific names on the *Official List of Specific Names in Zoology* :—

(a) *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*, as proposed to be interpreted under the Plenary Powers in (1) above (specific name of type species of *Vespertilio* Linnaeus, 1758) ;

(b) *myotis* Borkhausen, 1797, as published in the combination *Vespertilio myotis*†

(6) to place the under-mentioned specific names on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—

(a) *discolor* (Natterer MS) Kuhl, 1817, as published in the combination *Vespertilio discolor* (a junior objective synonym of *murinus*

* This name is a junior primary homonym of *Vespertilio murinus* Linnaeus, 1758, and is therefore invalid. The oldest available name for the species concerned is *Vespertilio myotis* Borkhausen, 1797.

† See the immediately preceding Footnote.

Linnaeus, 1758, as published in the combination *Vespertilio murinus* under the Ruling under the Plenary Powers recommended in (1) above) ;

(b) *murinus* Schreber, [1775], as published in the combination *Vespertilio murinus* (a junior primary homonym of *murinus* Linnaeus, 1758, as published in the combination *Vespertilio murinus*) ;

(7) to place the under-mentioned family-group name on the *Official List of Family-Group Names in Zoology* :—

VESPERTILIONIDAE (correction of **VESPERTILIA**) Rafinesque, 1815
(type genus : *Vespertilio* Linnaeus, 1758) ;

(8) to place the under-mentioned family-group name on the *Official Index of Rejected and Invalid Family-Group Names in Zoology* :—

VESPERTILIA Rafinesque, 1815 (type genus : *Vespertilio* Linnaeus, 1758) (an Invalid Original Spelling for **VESPERTILIONIDAE**).

APPENDIX 1

Note on the authorship and date attributable to the name "Vespertilio discolor" commonly attributed to Natterer and treated as having been published in 1819

At the time when I drew up the questionnaire regarding the species to be accepted as the type species of the genus *Vespertilio* Linnaeus, 1758, there seemed to be some doubt both as to the date of the publication of the name *Vespertilio discolor* (a name commonly attributed to Natterer) and as to the paper in which this name was first published. I accordingly included in the questionnaire a request to specialists for information on this matter.

2. Two of the specialists to whom the questionnaire was despatched very kindly gave valuable assistance in this matter. These were : Father A. M. Husson (*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*) ; Dr. T. C. S. Morrison-Scott (at that time of the *British Museum (Natural History), London*, and now *Director, The Science Museum, London*). The relevant portions of the letters received from these specialists are reproduced in Annexes 1 and 2 respectively to the present note. The information so furnished is summarised in the immediately following paragraphs.

3. *Authorship* : The name *Vespertilio discolor* is commonly attributed either to "Natterer" or more frequently to "Natterer in Kuhl". Father Husson has,

however, shown clearly that, while Natterer was responsible for the above name in manuscript, it was Kuhl who alone provided the "indication" on which under Article 25 the availability of this name rests. Accordingly this name should be attributed to Kuhl, either with or without a note that, as published by that author, it was a manuscript name of Natterer's.

4. Date of publication: The name *Vespertilio discolor* appeared twice in a paper by Kuhl entitled "Die deutschen Fleidermäuse". This paper was published in the serial publication *Annalen der Wetterauischen Gesellschaft für die gesammte Naturkunde*. The volume in question was published both as Volume 4 of the above Society's *Annalen* and also as Volume 1 of the Second Series of that serial. Kuhl's paper was published in two instalments, of which the first appeared in Part 1, and the second in Part 2, of the foregoing volume. The first of these Parts appeared in 1818, the second in 1819. Hence it is that the name *Vespertilio discolor* has been treated by some authors as having been published in 1818 and by others as having been published in 1819. In the first of these Parts the above name appeared only as a *nomen nudum*. Accordingly, so far as concerns the publication of the above name in the *Annalen*, it ranks for priority only as from the publication of Part 2 of the volume concerned, where for the first time it appeared with an "indication", i.e., from 1819. Father Husson has drawn attention, however, to the fact that Kuhl's paper was published as a separate unit in 1817 under the title quoted above, and has advanced evidence in support of the view that this was not a mere preprint and that it should therefore be accepted as the place where the above name was first validly published. In this edition the name *Vespertilio discolor* appeared on page 43.

5. From the evidence summarised above it may be concluded that the correct attribution, date, and reference for the name under consideration is: *Vespertilio discolor* (Natterer MS) Kuhl, 1817, "Die dtsch. Fleidermäuse": 43.

ANNEXE 1 TO APPENDIX 1

**Extract from a letter dated 22nd March 1956 from A. M. Husson
(Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands)**

As to the author's name and the date of *Vespertilio discolor* I can give you the following information, which I obtained with the help of Dr. L. B. Holthuis of the Leiden Museum.

Natterer often is incorrectly cited as the author of this species, while this actually should be Kuhl, who is the author of the paper (entitled "Die deutschen

Fledermäuse") in which the description of the species was first published. Though Kuhl gave the name of his new species as *Vespertilio discolor* Natterer, there is not the slightest indication that the description was made by Natterer. On the contrary the description is of exactly the same set-up as the other descriptions given by Kuhl. Natterer discovered the species near Vienna, from where he sent ("mittheilte") material to Kuhl. Evidently Natterer recognised the species as new and suggested the name *discolor* to Kuhl. The same situation exists with *Vespertilio Kuhlii*, also described for the first time in Kuhl's paper and for which he too cites Natterer as the author. Of this species Kuhl remarked: "Herr Natterer schoss diese Fledermaus selbst in Triest. Seiner Güte verdanke ich mehrere Exemplare, nach welchen ich diese Beschreibung entworfen. Dass er sie nach meinen Namen genannt, erkenne ich dankbar als ein Zeichen der Freundschaft dieses verdienstvollen Mannes." (*op. cit.* p. 57). Here it is quite clear that Kuhl drew up the description and that Natterer only suggested the name. Both here as well as in *Vespertilio discolor* and the other species first described in Kuhl's paper, Kuhl must be regarded as the author.

G. S. Miller in his "Catalogue of the mammals of western Europe" (1912, p. 238) already correctly cited Kuhl as the author of all the new species described in his "*Die deutschen Fledermäuse*".

The date of publication of *Vespertilio discolor* causes another difficulty. Sherborn cites it as *Vespertilio discolor* Natterer, 1818, *N. Ann. Wetterau. Ges. ges. Naturk.* (1) : 14, while Miller (*op. cit.*, p. 238) cites the name as *Vespertilio discolor* Kuhl, 1819, *Ann. Wetterau. Ges. ges. Naturk.*, iv (= *Neue Ann.*, 1, pt. 2, p. 187).

Kuhl's paper appeared in two parts, the first of these occupied pp. 11—49 of Heft I of Bd. 4 of the *Annalen der Wetterauischen Gesellschaft für die gesammte Naturkunde* (= Heft I of Bd. 1 of *Neue Annalen*, etc.), which was published in 1818, the second part including pp. 185—215 was published in Heft 2 of Bd. 4 of the *Annalen* (= Abt. 2 of Bd. 1 of the *Neue Annalen*, etc.), in 1819. On p. 14 a list of the species is given among which is *Vespertilio discolor*, but since no description is given here, the 1818 name is a *nomen nudum*, so that Miller is correct in his opinion that the first description of *V. discolor* in the *Ann. Wetterau. Ges. ges. Naturk.*, Bd. 4, p. 187 was published in 1819.

However, both Sherborn and Miller evidently overlooked the fact that before being published in the *Ann. Wetterau. Ges.*, etc., Kuhl's paper was issued as an independent publication in 1817. The Leiden Museum possesses a copy of this paper, which reads on the title page: *Die/ deutschen Fledermäuse/ von/ Heinrich Kuhl/ Hanau, 1817.* This publication also is referred to in Engelmann's 1846 *Bibliotheca Historico Naturalis* : 359. The fact that the *Ann. Wetterau. Ges. ges. Naturk.* were published in Frankfurt am Main (though printed in Hanau) shows that Kuhl's 1817 version is not just an antedated

reprint. The type setting, apart from a different heading on the first page is exactly like that in the paper in the *Ann. Wetterau. Ges. ges. Naturk.*, so that it is evident that the same type-matter was used for both papers. The two plates in the 1817 paper are the same as those of the 1818—1819 publication.

The correct reference to *Vespertilio discolor* thus is: *Vespertilio discolor* Kuhl, 1817, *Die deutschen Fledermäuse* : 43.

ANNEXE 2 TO APPENDIX 1

**Extract from a letter dated 6th April 1956, from T. C. S. Morrison-Scott
(British Museum (Natural History), London)**

I can give you the following information regarding the bibliographical reference to *discolor*.

The work has two title pages: *Annalen der Wetterauischen Gesellschaft für die gesammte Naturkunde* Band IV, and *Neue ditto*, Band I. Both title pages are of equal prominence and you can take your choice. I believe that Band I of the new series was also the last. Now Part 1, page 14 (published in 1818) is a nominal list of the fifteen German bats in which No. 8 is, “*Vespertilio discolor NATTERERI*, zweifarbig Fledermaus.”. The “bi-coloured bat” is not intended as a description; it is the common name in German, and corresponds in this list to such names as “spätfliegende Fledermaus”, “langöhrige F.”, “zwerig F.”, “Daubenton’sche F.”, “Bechsteinische F.”, etc.

But in Part 2 (published in or about June 1819, according to a pencil note inserted in the work by Sherborn) on p. 187, there is given a very detailed description of *discolor*, together with Plate XXV which shows the animal.

The earlier mention of *discolor* is simply a sort of index and there is no doubt that the right reference is 1819, Part 2, p. 187. Incidentally we are concerned with just one paper by Kuhl, called “*Die deutschen Fledermäuse*”, and it was published in two instalments.

It is not quite clear to me that the description is really by Natterer, though Kuhl does give some information about the bats occurrence, which he says that he obtained from Natterer.

APPENDIX 2

Two points arising in connection with the generic name
"Myotis" Kaup, 1829

As a generic name involved in the *Vespertilio* case, it will be necessary, as part of the settlement to be arrived at in that case, that the generic name *Myotis* Kaup, 1829 (*Skizz. Entwickel.-Gesch. nat. Syst. europ. Thierwelt* : 106, 105), being an available name in current use, should be placed on the *Official List of Generic Names in Zoology*. There are two points in connection with this name which call for special mention. The first is concerned with the gender to be attributed to this name, the second with the determination of its type species. These matters are discussed below.

(a) Gender attributable to the generic name "Myotis"
Kaup, 1829

2. In accordance with standard practice I invited Professor L. W. Grensted, Consulting Classical Adviser, to furnish a Report on the question of the gender to be attributed to the generic name *Myotis* Kaup, 1829, when consideration comes to be given to the addition of that name to the *Official List of Generic Names in Zoology*. On 5th December 1956 Professor Grensted furnished the Report asked for and on 12th December 1956 he amplified this in a brief Supplementary Report. The texts of these Reports are given in the Annex to the present Appendix.

3. Professor Grensted's Report shows that, if the word "myotis" were a Classical Latin word, it would be reasonable to expect that its gender would be feminine, though it must be noted that many nouns ending in "-is" take the masculine gender. Professor Grensted points out that in the case of the names of animals some nouns in "-is" are of common gender. He concludes that, as the word "myotis" is not a classical word, it would be defensible to treat it as being masculine in gender. This is the gender which has been widely used for this name by mammalogists.

4. In view of the fact that "myotis" is not a Classical Latin word, the rules applicable to such words are more of the nature of a guide than of that of strictly binding mandatory provisions. For this reason I am of the opinion that, having regard to the terms of the Reports furnished by the Consulting Classical Adviser, it would be legitimate for the International Commission to give a Ruling that the generic name *Myotis* Kaup, 1829, be treated as being of the masculine gender and that, having regard to the substantial usage of the masculine gender for adjectival specific names of species and subspecies in this

genus it is desirable that such a Ruling be given. I accordingly recommend the adoption of this course.

(b) Question of the type species of the genus " *Myotis* " Kaup, 1829

5. It is commonly stated in standard works of references (e.g. by Miller (G.S.), 1912, *Cat. Mamm. w. Europe Coll. Brit. Mus.* : 166) that *Vespertilio myotis* Borkhausen, 1897 (*Deutschl. Fauna* 1 : 80) is the type species of the genus *Myotis* Kaup, 1829. From the strictly nomenclatorial standpoint, however, this statement is incorrect, for Kaup, when establishing the nominal genus *Myotis*, made no mention whatever of the specific name *myotis* Borkhausen.

6. An inspection of Kaup's strange little work shows that in it he pursued a fanciful system of grouping under which assemblages of species were placed in successive " Reihe ", each assemblage consisting of a number of species of bird and one species of mammal. At the end of each of these lists was added the expression " genus of so-and-so ", examples being " Genus *Plesiosauris Ranarum* " (: 72), " Genus *Plesiosaurum* " (: 74), " Genus *Ichthyosaurorum* " (: 83), etc. The species comprised in each assemblage were allotted numbers in consecutive order, the species at the head of the list being given the highest number and that at the bottom of the list the lowest. Each of these lists was followed by a series of short generic diagnoses related to the species cited in the preceding list by the use of the same serial numbers but arranged in the opposite order to that adopted for the lists of names of species. In these generic diagnoses new generic names were sometimes introduced. No nominal species were cited in these diagnoses. The species intended to be included in any given genus may, however, readily be ascertained by reference to the use of the same serial number (i) for the generic diagnosis and (ii) for the species concerned in the preceding list.

7. In the light of the foregoing explanation of the system employed in Kaup's book we may now examine his treatment of the generic name *Myotis*. For this purpose we have to turn to his " *Funf und zwanzigste Reihe* " (: 105). This assemblage consists of the following nominal species numbered and arranged as follows: " 3. *Vespertilio murinus*. 2. *Caprimulgus europaeus*. 1. *Procellaria glacialis*. Genus *Ichthyosaurorum* ". Then Kaup gave the corresponding generic diagnoses as follows: " 1. *Fulmar. Rhantistes* " (: 105) [referring back to *Procellaria glacialis*] ; " 2. *Ziegenmelter. Caprimulgus* " (: 106) [referring to *Caprimulgus europaeus*] ; " 3. *Mäuseohr. Myotis* " (: 106) [referring to *Vespertilio murinus*] . We see therefore that the genus *Myotis* Kaup was established for the single nominal species *Vespertilio murinus*, which is therefore the type species by monotypy.

8. It is unfortunate that Kaup did not cite authors' names for the species mentioned in his book, for the binomen *Vespertilio murinus* was published twice as a new name before Kaup's time, first by Linnaeus in 1758 (for the species "indicated" by Linnaeus as the type species of the genus *Vespertilio*) and second, by Schreber in [1775] for a different species to which later (1797) Borkhausen gave the name *Vespertilio myotis*. Aided by the diagnosis provided by Kaup, specialists have always accepted the latter species as the type species of the genus *Myotis* Kaup, 1829. From the point of view of nomenclature the type species of that genus is therefore *Vespertilio murinus* Schreber, [1775] (*Die Saugthiere* 1 : 165, pl. 11) and not, as commonly stated, *Vespertilio myotis* Borkhausen, 1797. This distinction is, however, purely formal, since (as we have seen) the first of these names is an invalid homonym, while the latter is the oldest available name for the same species.

ANNEXE TO APPENDIX 2

Reports on the gender attributable to the generic name " *Myotis* " Kaup, 1829, furnished by Professor L. W. Grensted, Consulting Classical Adviser to the International Commission on Zoological Nomenclature

(a) Report dated 5th December 1956

Normally *Myotis* would be feminine, like the closely related *Myosotis*. The only parallel that I have noted, *Amphotis*, is treated as feminine, and so are nouns in " -itis ". (*Orobitis cyaneus* (L.)—so given in Kloet & Hincks—seems to be just wrong, since *orobitis* is a rare classical noun taken over from the Greek by Pliny and given as feminine.)

The only doubt in the case of *Myotis* arises from the use of the name for a mammal, where considerations of sex do sometimes mean that a name gets its gender from its meaning and not from its form. The word *Myotis* is not classical. It should be feminine, but, if declared masculine, there would be some case for so doing.

(b) Supplementary Report dated 12th December 1956

Perhaps I had better add a further line about these nouns in " -is ". It seems, in classical Latin, that the sex question went a bit with the size of the animal. Thus *canis* is common gender. So is *tigris*, though it is masculine in prose writers and feminine in the poets. *Felis* is very rare in classical Latin,

and is feminine—but it meant a small cat allied to weasels and such things. *Leo* is masculine—and, of course, such a name as *Felis leo* did not occur to classical writers. I have a feeling that a bat would be too small to come under this common gender principle and that, if *Myotis* had been a classical word for a bat, it would certainly have been feminine. But, as I have said, we have no direct classical precedent. Many nouns in “-is” are masculine and there is a considerable taxonomic tradition for making *Myotis* masculine. The word has, of course, nothing to do with *otis* (a bustard), which is feminine.

APPENDIX 3

Views as to the interpretation of the nominal species “*Vespertilio murinus*” Linnaeus, 1758, published by Gerrit S. Miller, Jr. in 1897 and by Olof Ryberg in 1947 respectively

(a) Extract from a paper by Gerrit S. Miller, Jr. entitled “The Nomenclature of some European Bats” published in 1897

(Miller (G.S.), 1897, *Ann. Mag. nat. Hist.* (6) 20 : 379—383)

The exact identification of the species *murinus* among the Scandinavian members of the genus *Vespertilio*, although a matter of considerable difficulty, does not affect the use of the generic name. Nilsson,* after a careful review of the facts, decided that the animal must have been the bat to which Natterer afterwards applied the name *discolor*. He therefore very properly placed the latter in the synonymy of *V. murinus* Linnaeus, and reinstated Bechstein’s name *myotis* for the *Vespertilio murinus* of Schreber. Nilsson did not recognise “*Vesperugo*” as distinct from “*Vespertilio*”. Hence he said nothing in regard to the tenability of the generic names. Ten years later, Blasius,† although admitting that the *Vespertilio murinus* of Linnaeus could not be the bat commonly known by that name, considered the species undeterminable, and therefore reasoned that the name first applied to it might afterwards be properly used by Schreber in a different sense. It is not surprising, then, that Blasius continued to apply the name *Vespertilio* Linnaeus to the genus to which he had restricted it eighteen years before, notwithstanding the fact that, according to his own statement, it could not be made to include any of the Linnean species. In these rulings Blasius was followed by Lilljeborg,‡ who gave detailed reasons for his belief that it is impossible to determine whether Linnaeus’s bat is the species afterwards called *Vespertilio discolor* by Natterer, or that called *Vespertilio Nilsoni* by Keyserling and Blasius. In his opinion, contrary to that of Nilsson, the odds are in favour of the latter. Lilljeborg

* *Skand. Fauna, Daggdjuren*, pp. 17—20 (andra upplagen) (1847).

† *Fauna der Wirbelthiere Deutschlands, Säugethiere*, p. 74 (1857).

‡ *Sveriges och Norges Ryggradsdjur*, i, pp. 124—126, 144 (1874).

calls attention to Blasius's mistake in applying the generic name *Vespertilio* to a group containing no species known to Linnaeus, but concludes that since this error has become time-honoured, it were better uncorrected.

(b) Extract from a paper by Olof Ryberg entitled "Bats and Bat Parasites" published in 1947

(Ryberg, 1947, *Bats and Bat Paras.* : 79—80)

Nomenclature : The forms appearing in Sweden agree most nearly to the typical races. Therefore when discussing their biology a binary instead of a ternary (trinary) nomenclature has been used.

As regards nomenclature in this chapter I follow Miller, 1912. With reference to synonyms this work should be consulted. An exception is made in the case of *Vespertilio discolor* Natterer in Kuhl, 1819.

For this species Miller uses the name "*Vespertilio murinus* Linnaeus, 1758". Natterer's description is undoubtedly to be assigned to a determined species. Linnaeus's diagnosis is such as to make it impossible to identify a determined species. From references in the works of Linnaeus it is obvious even with full evidence that the name is a collective designation for several different European species. The collective name has during different periods and in different lands been used to designate a large number of different European species.

Although Nilsson was fully aware that a safe interpretation of the Linnean name was impossible he used it in 1847 for *Vespertilio discolor* Natterer in Kuhl, 1819. This designation was also used by the leading American bat specialist Gerrit Miller from 1897 onwards. I know of no other change in nomenclature which has caused a more hopeless confusion in the literature. If the name *murinus* is used with or without a mention of Linnaeus as author, one can seldom with certainty know to which species reference is being made. One could search out hundreds of mistakes, confusions and errors which have arisen in the literature quotations when this obsolete name has been used.

It would be a significant gain and a release from a heavy burden for the chiropterologist, if this harmful name which cannot be referred to a definite species were avoided in the future.

Even if it may be illogical, it would perhaps be an advantage to retain the name *Vespertilio* as a genus-designation for the species *discolor* Natterer in Kuhl, 1819.

Among the authors who perceived the confusion that arose through the use of the name *Vespertilio murinus* can be mentioned, among others, Lilljeborg, 1874, pp. 124—126; Brandt, 1855, pp. 26—27; Mohr, 1931, p. 19; Stiles & Nolan, 1931, p. 727.

APPENDIX 4

Views as to the interpretation of the nominal species " *Vespertilio murinus* " Linnaeus, 1758, received from specialists in answer to the questionnaire issued on 13th March 1956

SECTION A : Comments received from specialists who favour the retention of the specific name " *murinus* " Linnaeus, 1758, as published in the combination " *Vespertilio murinus* ", as the name for the type species of " *Vespertilio* " Linnaeus, 1758

1. G. G. Simpson (New York) (16th March 1956)

It is my impression that *murinus* has been much more commonly used in recent years than *discolor*. I have not made a long search but I find *murinus* used in all the standard reference works on my shelves. A further question here would be whether *murinus* has been recently used for any other species, and in spite of Ryberg's statement to the contrary, I do not find any ambiguity in recent applications of the name. I am on this basis strongly in favor of the alternative stated in paragraph 8, sub-paragraph (2).

2. R. W. Hayman (London) (19th March 1956)

I have looked into the major literature of the past 50 years on this subject, and can now reply to the three questions in paragraph 8 of your statement of the case.

(a) *Vespertilio murinus* Linnaeus is the name that has certainly been most used in the literature of the last 50 years. All the major reviewers and writers have used it since Miller's 1897 paper.

(b) I should be in favour of *murinus* being validated by the Commission in the manner adopted by Nilsson (1847).

3. H. Mislin (Mainz, Germany) (19th March 1956)

Soweit ich es überblicken kann, war der Name *murinus* in den letzten 50 Jahren gebräuchlicher als *discolor*.

2. und 3. Auf diese beiden Fragen kann ich nicht näher eingehen, aber ich muss zum ganzen Fragenkomplex grundsätzlich das folgende bemerken. In

Deutschland und in der Schweiz haben wir bisher 21 Fledermausarten gefunden, die sich auf die beiden Familien der RHINOLOPHIDAE und der VESPERTILIONIDAE verteilen. Die gefundenen Arten der VESPERTILIONIDAE verteilen sich auf 8 Gattungen. Davon waren die 4 Gattungen *Nyctalus*, *Eptesicus*, *Vespertilio* und *Pipistrellus* früher zu einer Gattung *Vesperugo* vereinigt. Die Arten der Gattung *Myotis* wurden unter dem Namen *Vespertilio* geführt, was leider infolge der verschiedenen Anwendung dieses Namens zu Verwechslungen führte, zumal auch die Anwendung der Artnamen viele Anderungen erfahren hat. So trägt jetzt die zweifarbig Fledermaus, die früher den Namen *Vesperugo discolor* den Namen *Vespertilio murinus*. Der Name *Vespertilio murinus* wurde aber früher für die jetzige *Myotis myotis* gebraucht. *Myotis myotis* (Borkh.) war früher *Vespertilio murinus* (Schreber). Ich habe diesen Exkurs nur gegeben um darauf aufmerksam zu machen dass der Name *myotis* und *murinus* oftmals verwechselt oder ausgetauscht worden ist.

Aber nun noch kurz zu Ihrer Frage. Die zweifarbig Fledermaus wurde meines Wissens früher nicht nur *Vespertilio discolor* genannt, sondern hiess auch *Vespertilio discolor* Natt. Ich möchte darum der Kommission vorschlagen, die in Frage stehenden Species als *Vespertilio murinus* Linnaeus zu bezeichnen.

Da ja für die Mausohr-Fledermaus die frühere Bezeichnung *Vespertiliomurinus* Schreber heute nicht mehr verwendet wird und wie oben schon ausgeführt durch *Myotis myotis* (Borkh.) ersetzt worden ist, kann nomenklatorisch keine Verwechslung mehr auftreten und man sollte deshalb bei der zweifarbig Fledermaus (*Vespertilio discolor* Natterer) auf den ersten Autor nämlich auf Linnaeus zurückgreifen.

4. T. Haltenorth (München, Germany) (20th March 1956)

I am in favour of the Commission putting a stop to further doubt on *Vespertilio murinus* Linnaeus, 1758. *Vespertilio discolor* Natterer has to be a synonym of *V. murinus* Linnaeus. I am not in favour of the Commission suppressing the name *murinus* Linnaeus, 1758.

5. A. M. Husson (Leiden) (22nd March 1956)

(1) It is very hard to say which of the two names *murinus* or *discolor* has been most commonly used in the last 50 years. My personal impression is that the ratio is about fifty-fifty, while the name *murinus* during that time has been used in several important publications like Miller's *Catalogue of the Mammals of Western Europe* (1912), Eisentraut's *Die Deutschen Fledermause* (1937), and Ellerman & Morrison-Scott's *Checklist of Palearctic and Indian Mammals* (1951).

(2) In my opinion stability would be best served by accepting the interpretation of *Vespertilio murinus* Linnaeus, adopted by Nilsson and subsequently by Miller and numerous other authors.

I am therefore in favour of placing the specific name *murinus* Linnaeus, 1758, in the combination *Vespertilio murinus*, on the *Official List of Specific Names in Zoology*. Furthermore I am in favour of the Commission using its Plenary Powers to direct that the nominal species *Vespertilio murinus* Linnaeus, 1758, be interpreted in the manner adopted by Nilsson (1847) and therefore identified with *Vespertilio discolor*, 1817 (not 1818 or 1819 [see Appendix 5 as a Footnote]).

6. S. Frechkop (Bruxelles) (29th March 1956)

J'ai l'honneur de vous faire savoir que je suis partisan de la conservation du nom *Vespertilio murinus* Linné qui est celui de la "petite chauve-souris murine", tandis que *Myotis myotis* (Borkhausen) est le nom technique pour "le Murin".

7. W. Serafinski (Warsaw) (4th April 1956)

(1) In the majority of publications during the last fifty years there was used the name *Vespertilio murinus* Linnaeus, 1758. Some authors added as a rule the synonym *Vespertilio discolor* Natterer in Kuhl, 1819.

(2) I am accordingly supporting the action proposed in point (2) of paragraph 8 of your paper.

8. T. C. S. Morrison-Scott (London) (6th April 1956)

(1) There is no question about it. The name *murinus* has been the generally accepted one for this bat for the last sixty years.

I am strongly in favour of proposal (2) of your questionnaire and hope that action will be taken on it.

SECTION B : Comments received from specialists who favour the suppression under the Plenary Powers of the specific name " *murinus* " Linnaeus, 1758, as published in the combination " *Vespertilio murinus* ", and the designation under the same Powers of " *Vespertilio discolor* " Natterer, 1818, to be the type species of the genus " *Vespertilio* " Linnaeus

1. Erna Mohr (Hamburg) (17th March 1956)

Habe ich bereits vor einem Vierteljahrhundert den Artnamen *murinus* Linnaeus abgelehnt zugunsten von *discolor* Kuhl resp. Natterer [see extract below].

Mohr Erna : *The Mammals of Schleswig-Holstein*, Altona/Elbe, 1931, p. 19 : " 5. Zweifarbige Fledermaus, *Vespertilio discolor* Kuhl. . . . Die von Miller angewendete Artbezeichnung *murinus* L. sollte besser vermieden werden ; die Artnamen *murinus*, *myotis* und die deutsche Bezeichnung Mausohr für mehrere Arten verschiedener Gattungen haben das Fledermausstudium ganz ungebührlich belastet ".

2. E. Eisentraut (Stuttgart) (29th March 1956)

Obgleich in den letzten Jahrzehnten für die in Frage kommende Species fast allgemein der Name *Vespertilio murinus* Linnaeus, 1758, angewendet wurde, stimme ich der Ansicht Rybergs zu, dass infolge der bestehenden Unklarheiten, welche Species vorgelegen hat, der Name *Vespertilio discolor* Nat., 1818, Gültigkeit haben soll. *Vespertilio discolor* Nat. wäre daher als " type species " für das Genus *Vespertilio* zu bezeichnen.